

AMENDMENT TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for protecting a thiol group in a protein having a free cysteine residue and wherein the protein is produced by using a cell cultured in a serum-free medium, ~~which comprises~~ comprising adding a compound which has a disulfide bond in the molecule and exerts ~~substantially~~ no influence on the activity of the protein.
2. (Withdrawn) A method for inhibiting a polymerization reaction of proteins via thiol groups, which comprises protecting a thiol group in a protein having a free cysteine residue by adding a compound which has a disulfide bond in the molecule and exerts substantially no influence on the activity of the protein.
3. (Withdrawn) A method for inhibiting modification of a protein, which comprises protecting a thiol group in a protein having a free cysteine residue by adding a compound which has a disulfide bond in the molecule and exerts substantially no influence on the activity of the protein.
4. (Withdrawn) A method for inhibiting an exchange reaction of a thiol group in a protein with a disulfide bond formed in the molecule or between the molecules of the protein, which comprises protecting a thiol group in a protein having a free cysteine residue by adding a compound which has a disulfide bond in the molecule and exerts substantially no influence on the activity of the protein.

5. (Currently Amended) The method according to claim 1, wherein the compound which has a disulfide bond in the molecule and exerts ~~substantially~~ no influence on the activity of the protein is cystine, homocystine, lipoic acid or oxidized glutathione.

6. (Currently Amended) The method according to claim 1, wherein the compound which has a disulfide bond in the molecule and exerts ~~substantially~~ no influence on the activity of the protein is cystine.

7. (Currently Amended) A method for protecting a thiol group in a protein having a free cysteine residue, which comprises adding a compound which has a disulfide bond in the molecule and exerts ~~substantially~~ no influence on the activity of the protein simultaneously or separately from a compound which has a thiol group in the molecule and exerts ~~substantially~~ no influence on the activity of the protein.

8. (Currently Amended) The method according to claim 7, wherein the compound which has a thiol group in the molecule and exerts ~~substantially~~ no influence on the activity of the protein is cysteine, homocysteine, glutathione or dihydrolipoic acid.

9. (Currently Amended) The method according to claim 7, wherein the compound which has a thiol group in the molecule and exerts ~~substantially~~ no influence on the activity of the protein is cysteine.

10. (Previously Presented) The method according to claim 1, wherein the protein is a recombinant protein.

11. (Previously Presented) The method according to claim 1, wherein the protein is an antibody.
12. (Original) The method according to claim 11, wherein the antibody is an F(ab')₂ antibody.
13. (Previously Presented) The method according to claim 11, wherein the antibody is a monoclonal antibody.
14. (Original) The method according to claim 13, wherein the monoclonal antibody has a thiol group in its variable region.
15. (Previously Presented) The method according to claim 13, wherein the monoclonal antibody has a free cysteine residue in its variable region.
16. (Previously Presented) The method according to claim 13, wherein the monoclonal antibody comprises the amino acid sequences represented by SEQ ID NOs:1, 2 and 3 in the Sequence Listing in its heavy chain hypervariable region, and the amino acid sequences represented by SEQ ID NOs:4, 5 and 6 in the Sequence Listing in its light chain hypervariable region.
17. (Previously Presented) The method according to claim 13, wherein the monoclonal antibody comprises a heavy chain variable region comprising the amino acid sequence represented by SEQ ID NO:7 in the Sequence Listing and a light chain variable region containing the amino acid sequence represented by SEQ ID NO:8 in the Sequence Listing.
18. (Canceled)

19. (Withdrawn – Currently Amended) A protein which is obtainable by the method according to ~~claim 18~~ claim 1.

20. (Withdrawn) A pharmaceutical composition which comprises the protein according to claim 19 and a pharmaceutically acceptable carrier.

21. (Withdrawn) The pharmaceutical composition according to claim 20, which is an antitumor agent.